

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.: 09/751,185  
Inventors: Fairbanks et al.  
Assignee: Crane Plastics Company LLC  
Filed: December 29, 2000  
Examiner: Winnie S. Yip  
Group Art  
Unit: 3637  
Attorney  
Docket No.: 1540-203K  
Title: STRAIGHT FACE  
VINYL SIDING

DECLARATION UNDER  
37 CFR § 1.132

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CERTIFICATE OF FAX TRANSMISSION UNDER 37 CFR §1.8 (a)	
Date of Transmission: August 12, 2005	
I hereby certify that this correspondence is being transmitted by fax to Examiner	
Winnie S. Yip at (703) 872-8306. 571-273-8350.	<i>Sub</i> <u><i>Jinda M. Bradley-Torment</i></u>
	<u><i>Trisha M. Beachy-Bryant</i></u>

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The following declaration is in response to the Examiner's Office Action mailed June 9, 2005, and the interview with the Examiner on July 7, 2005.

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Larry R. Fairbanks, being duly sworn, deposes and says:

1. I am a co-inventor with Samuel W. DeWorth and David C. Barber of the subject matter of the above-identified application.
2. I have been employed by the Crane Plastics family of companies (hereinafter collectively referred to as Crane) in Columbus, Ohio, from about 3-9-1977 to date. I am currently the process engineer for Crane Performance Siding.
3. Since about 3-29-1977, I have worked extensively in the development and production of siding, including the design of siding and the development of extrusion and other processing techniques for making siding. I am intimately familiar with the common types of field failure associated with conventional siding.
4. Since about July 1998, I have worked extensively in the ongoing development and production of foam-backed siding. Crane is widely recognized as a leader in the development of foam-backed siding. As a result of my extensive experience with foam-backed siding, I am also intimately familiar with the common types of field failure associated with conventional foam-backed siding.
5. A conventional straight face, vinyl siding panel is commonly intended to simulate the appearance of conventional straight face, wood lap siding. However, a conventional straight face, vinyl siding panel has a natural tendency to oil can. Oil canning refers to undesired deflection of the face surface of a vinyl siding panel. It is typically characterized by undesired warping or distortion of the face surface of the vinyl siding panel, and a common cause is the expansion and contraction of the vinyl

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material used to make the siding panel. As the vinyl material expands and contracts due to temperature changes, the face surface of a conventional straight face, vinyl siding panel will eventually oil can. In other words, the straight face of a conventional vinyl siding panel will eventually distort, and it will no longer provide the much desired appearance of a straight face.

6. In attempt to solve the oil canning problems associated with conventional straight face, vinyl siding panels, the industry commonly resorted to introducing a significant concave curvature into each face surface of a vinyl siding panel. A common amount of concave curvature is characterized by at least about 0.130-0.170 inch of surface variance or less than approximately 10-25 inches of radius curvature for a row of a siding panel having a width of at least four inches. The significant concave curvature increases the resistance to oil canning of the vinyl siding panel as compared to a conventional straight face, vinyl siding panel. However, the significant concave curvature is readily visible, and it detracts from the appearance of the vinyl siding panel. A vinyl siding panel having a significant curvature in each face surface does not provide the much desired appearance of a straight face siding panel.

7. When foam-backed siding was introduced, much of the industry shifted back to straight face, vinyl siding panels. The industry falsely believed that laminating a foam backing panel to a vinyl siding panel eliminated the need to design a concave set (i.e., rows having significant curvature) into the face of the vinyl siding panel in order to resist the effect of oil canning. U.S. Patent No. 6,029,415 (i.e., Culpepper et al.) is indicative

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of this early viewpoint of the industry. In U.S. Patent No. 6,029,415, Culpepper et al. theorizes that simply laminating an insulating board to the vinyl panel enables the use of a flat surface face (i.e., each row has a straight face) to more accurately simulate the appearance wood lap siding.

8. Contrary to the teaching of U.S. Patent No. 6,029,415, simply laminating the vinyl panel to a foam backing panel does not provide the desired resistance to oil canning. When the vinyl panel expands and contracts due to temperature changes over a period of time, the vinyl siding panel will still oil can despite the presence of the foam backing panel. In particular, the vinyl siding panel will distort outwardly because of the lack of concave curvature and the presence of the foam backing panel. As a result, a straight face, foam-backed, vinyl siding panel does not effectively simulate the appearance of wood lap siding because of the effect of oil canning. In addition, the oil canning increases the risk of delamination of the siding unit.

9. The inventors of the present application have discovered the substantial benefits of providing a slight curvature to a row of a siding panel. As set forth in the claimed invention, a slight curvature is characterized by less than about 0.05 inch of surface variance or at least about 85 inches of radius curvature for a row of a siding panel having a width of at least about four inches. The inventors have discovered that providing a slight curvature to a row of a siding panel significantly improves the resistance to oil canning as compared to a conventional straight face, vinyl siding panel. Moreover, in direct contrast to the significant curvature used by the prior art, the slight

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curvature of the present invention is difficult to see with the naked eye. As a result, the slight curvature of the present invention still enables the siding panel to approximate the appearance of wood lap siding. Prior to this invention, I am unaware of any vinyl siding panel having a slight curvature as set forth in the present application.

10. Optionally, a siding panel having a slight curvature of the present invention may be used in combination with a foam backing panel. The inventors have discovered that a siding panel having a slight curvature significantly improves the performance of a foam-backed, vinyl siding panel. In particular, the slight curvature of the vinyl siding panel significantly increases the resistance to oil canning as compared to a conventional foam-backed, straight face vinyl siding panel. Moreover, the slight curvature of the vinyl siding panel enables the resulting siding unit to approximate the appearance of straight face siding. In fact, while the foam backing panel may tend to further straighten out the vinyl siding panel, the built-in slight curvature of the siding panel still substantially increases the resistance to oil canning. Based on information and belief, the industry failed to recognize the substantial benefits that may be obtained by using a vinyl siding panel having a slight curvature in combination with a reinforcement panel (e.g., a foam backing panel) as set forth in the present invention.

11. The references cited by the examiner, either alone or in combination, do not teach or suggest the claimed invention. Neither U.S. Patent No. 6,295,777, U.S. Patent No. 6,195,952, U.S. Patent No. 6,029,415, U.S. Patent No. 4,649,008, U.S. Patent No. 4,969,302, International Publication No. WO 00/55446, nor the Sweet Catalog teaches

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or suggests a vinyl siding panel having a substantially planar portion of a width of at least about four inches, wherein the substantially planar portion has a slight curvature that is characterized by less than about 0.05 inch of surface variance or at least about 85 inches of radius curvature. In this regard, the lack of teaching or motivation by the aforementioned references is indicative that the references conformed to the common industry practice of either using: 1) a straight panel face without any curvature; or 2) a panel having a curvature characterized by a surface variance that is significantly greater than about 0.05 inch or characterized by a radius curvature significantly less than about 85 inches. As evidenced by the longstanding problem of obtaining a straight face vinyl siding panel that is resistant to oil canning, I am unaware of any prior vinyl siding panel having a substantially planar portion of a width of at least about four inches, wherein the substantially planar portion has a slight curvature that is characterized by less than about 0.05 inch of surface variance or at least about 85 inches of radius curvature. I am also unaware of any prior siding unit comprised of a reinforcement panel secured to a siding panel having a slight curvature as claimed.

12. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. I further declare that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may

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jeopardize the validity of the above-referenced application or any patent issuing thereon.

8-12-05

Date

  
Larry R. Fairbanks